

## MICA ML-800 ATEX / ML-800 ATEX EM TECHNICAL DATA

<b>MODEL</b>	<b>ML-800 ATEX, ML-800 ATEX EM</b>
<b>Product description</b>	ML-800 ATEX Rechargeable safety hand lamp ML-800 ATEX EM Rechargeable emergency safety lamp
<b>Code</b>	II 2 GD Ex op is IIC T4 Ex iD 21 T130°C
<b>Apparatus standards</b>	EN60079-0 (2006) EN60079-11 (2007) EN60079-28 (2007) EN60241-0 (2006) EN60241-11 (2006)
<b>Type of protection</b>	"is" intrinsic safety
<b>Area of classification G (Gas)</b>	Zones 1 and 2 Gas groups IIA, IIB, IIC
<b>Area of classification D (Dust)</b>	Zones 21 and 22
<b>Temp. classification</b>	T4
<b>Operating temperature</b>	-20°C ... +40°C
<b>Certification</b>	VTT 04 ATEX 062X EMC Directive 89/336/EEC Directive 94/9/EEC
<b>Enclosure</b>	Antistatic polypropylene + aluminium
<b>Colour</b>	Yellow + black
<b>Lens</b>	Toughened glass (3mm)
<b>Beam type</b>	Spot
<b>Light source:</b>	1W or 3W LUXEON LED, Side emitting, narrow beam Lifetime 50 000hrs Illumination 1W high-luminous LED 45lm 1312lx @ 1m 3W high-luminous LED 65lm 2670lx @ 1m
<b>Power source:</b>	6V 1,8Ah rechargeable NiMH battery After 500 charging cycles 80% capacity left
<b>Light duration</b>	1W 7 hours, 3W 3 hours
<b>Ingress protection</b>	IP 66
<b>Weight with battery</b>	0,37 kg
<b>Dimensions</b>	120 x 63 x 54mm
<b>Other features:</b>	- Deep discharge prevention - Capacity indicator - Two-step low battery warning - NATO-number: 6230-17-1179047 (1W LED)
<b>Chargers</b>	Single charger <b>MICA MLC</b> , charging time 2 h 30 mins
<b>Accessories</b>	<b>MICA IL-2</b> Mains adapter 230VAC <b>MICA CR-15</b> Power supply for max. 10 MLC chargers <b>MICA CR-13</b> Power supply for max. 6 MLC chargers



**MICA HL-800 ATEX****I M2  
II 2G****Ex I IEC 62013-1  
Ex eib op is IIC T4**

Certificate: VTT 02 ATEX 013 X

The design and manufacture of the lamp is compliant to European standards CENELEC EN 60079-0 (2006), EN 60079-7 (2007), EN 60079-11 (2007), EN 60079-28 (2007), EN 62013-1 (2006).

**MICA HL-800 ATEX SAFETY INSTRUCTIONS****Before use:**

- All preparations (including cleaning) must always perform before entering inside potentially explosive environments. The charger (MICA HC-41 or MICA-42) must be mounted outside the potentially explosive atmosphere. Charging the lamp battery inside potentially explosive environments is prohibited.

**Use:**

- HB-800 battery is the only allowable power source for MICA HL-800 ATEX lamp.
- HB-800 battery may not be charged in an EX hazardous area.
- HB-800 battery may be charged with MICA HC-41 or MICA HC-42 charger only.
- HB-800 battery may be changed inside an EX hazardous area.
- Check that your MICA HL-800 ATEX lamp is certified for use in your work location
- Make sure that lamps' s protection class is sufficient to environment where lamp is used.

**Maintenance:**

- Do not open the reflector housing (secured with a allen socket screw) inside an EX-hazardous area.
- User-serviceable parts are limited to those listed in the spare part list.
- Under no circumstances do not attempt to service or change the electronics unit.
- In case of malfunction, read the User's Manual and contact your MICA distributor.

**WARRANTY**

Your MICA lamp, battery and charger are guaranteed for one year from date of purchase against all defects in materials and workmanship. During the warranty period, these units may be serviced by an authorized MICA service agent only. For after-sales service, contact your local MICA dealer.

For more information on Mica Elektro or the product lines, please visit our internet website:

[www.mica.eu](http://www.mica.eu)

**EC DECLARATION OF CONFIRMITY**

We hereby declare that the product described below has been designed and manufactured in accordance with the following standards/directives:

- Directive 94/9/EC Equipment (ATEX) for use in potentially explosive atmospheres
- EMC directive 89/336/EC

Manufacturer:	MICA ELEKTRO OY LTD. Höyläämötie 11 A FIN-00380 HELSINKI, Finland phone: +358-9-561 7666 fax: +358-9-561 76688 email: <a href="mailto:info@mica.eu">info@mica.eu</a> <a href="http://www.mica.eu">www.mica.eu</a>
Product name, model, serial number, year of manufacture:	Mica Halogen HL-800 ATEX Serial number (in eight digits) and year of manufacture marked on the ID tag.
Certificate number:	VTT 02 ATEX 013X
Product type:	Rechargeable head/helmet lamp

Helsinki, Jan. 30, 2009

  
Ake Smolander, Managing director  
MICA ELEKTRO OY LTD.

# —mica—halogen—<sup>®</sup>

## HL-800 ATEX USER'S GUIDE



Please read this user's guide carefully and store it for future, since proper handling will prolong the useful life of your MICA lamp.



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—mica—  
e-l-e-k-t-r-o

**LAMP USE**

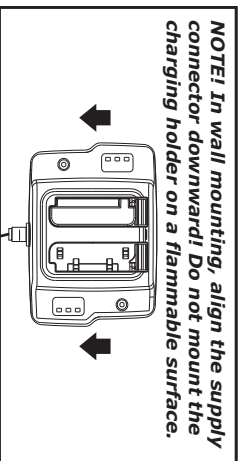
Before use check that the battery is fully charged and connected to the lamp. The rotary knob on the right side of the lamp functions as a switch (secondary LED / Main beam / OFF). The beam angle can be adjusted by the rotary knob on the left side of the lamp. In the HL series lamps, blinking of the beam at 15 s intervals indicates low battery. At the start of blinking the bulb, about 10 min of operating time remains. After that, the control electronics will automatically turn off the lamp to prevent battery deep-discharge. When necessary, adjust the beam angle (see Bulb change).

**VERSIONS**

The HL-800 series is manufactured in three versions: a headband model, a helmetband model (a special design affixed on a helmet with rubber bands and plastic hooks) and a helmet clip model. Main beam is 1W LED bulb or 2.4W Halogen bulb. When ordering spare parts, pay attention to specify a correct lamp version.

A table/wall-mounted charging holder is available in

two versions: type HC-41 (single-battery version) or HC-42 (two-battery version).

**BATTERY CARE**

For long life, the battery must be charged fully prior to its first use, as well as after a full discharge. A new battery needs about 10 full charge/discharge cycles to gain its full capacity. Charging within an explosion hazard space is absolutely forbidden! The HB-800 battery must always be charged in an original HC-41/42 charging holder.

**BATTERY CHARGING**

The charging holder can be used at an operating temperature of +5°C ... +40°C. The fast-charging current is about 650mA. It can be supplied from the mains using either the MICA IL-2, MICA IL-10, MICA CR or the vehicle battery (supply voltage of 12...30VDC). Fast-charging a fully exhausted HB-800 battery takes less than two hours. **NOTE!** The supply voltage to the charging holder may not be interrupted by a timer or similar device.

**NOTE!** After use in the lamp, the battery should always be stored in its charging holder.

The charging holder has a quick-disconnect for supply voltage input. When the green LED indicator is on, the supply voltage to the battery charging holder is properly connected. If there is no battery in the charging holder and the yellow LED indicator is on, the supply voltage is too low.

The intelligent control circuit of the HC-41/42 starts the charge cycle by a battery condition analysis. Based thereon, the control circuit optimizes the charging parameters to bring the battery to the correct temperature (+5°C ... +40°C) and voltage. If the battery temperature is under +5°C or over +40°C or the battery has been exhausted down to a deep-discharge, charging will begin at a low trickle charge current (red LED turns on) until the battery is ready for fast charge (yellow LED turns on). When charging at full current is completed, the charger will automatically switch to trickle charging (green LED turns on). If the battery temperature rises excessively during charging, the charger will stop charging (red LED turns on) until the battery temperature falls sufficiently.

If the battery is defective or overheated, charging will be interrupted and the red LED remains lit even when the battery is removed from the charging holder. Prior to the next charging cycle, the charging holder must be reset by disconnecting the supply voltage (see legend of LED indications).

**BULB CHANGE (1W LED or 2.4W Halogen)**

Use only spare parts supplied by MICA as a replacement. First unscrew the locking screw of the lamp collar ring (with a 2.5mm Allen key). Remove the glass lens, rubber seal and reflector. Open the bulb/1W LED locking ring using a 11mm wrench tool. Change the bulb and tighten in place with the locking ring. Adjust the beam angle by turning the locking ring clockwise and check with the reflector until the beam pattern is as desired. When changing the bulb or reflector, avoid scratching them and immediately wipe away any stains using tissue paper and spirits. The secondary LED lamp may be replaced only by an authorized MICA service agent.

**Operating times:**

With 1W LED bulb is 7h and with 2.4W Halogen 3h 10min.

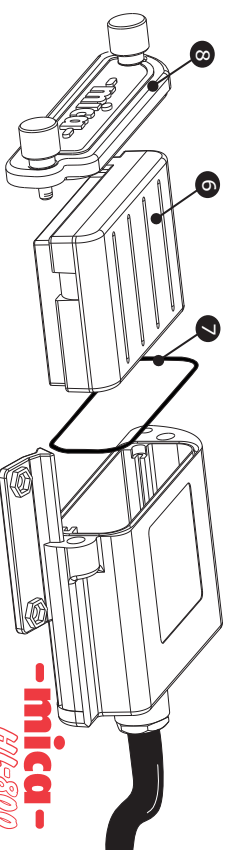
Using the secondary LED lamp only, the operating time is over 1 day.

**Legend of LED indications on HC-41/42 charger**

Green LED	Power on (without battery)
Green LED	100% charged (battery inserted)
Yellow LED	Too low input voltage (without battery)
Yellow LED	Fast charging (battery inserted)
Yellow LED	Charging parameters off limits (battery inserted)
Red LED	Remains lit (even after battery removal) for a defective or excessively heated battery. To reset the control circuit, disconnect supply voltage temporarily.

**NOTE!**

**Servicing of MICA HL-800 by the user is limited to the operations described above and may cover only the change of the spare parts listed under the drawing.**

**SPARE PARTS FOR HL-800 ATEX LAMP:**

- H0032\_1 Halogen Bulb (2.4W)
- H0032\_5 1W LED Bulb
- H0033\_1 Bulb locking ring
- H0035\_2 Reflector with oval ring
- H0044\_1 Rubber band set (headband)
- H0044\_2 Rubber band set (helmetband)
- H0047\_1 Plastic hooks for helmetband
- H0046\_4 Clamp frame and helmetband
- H0046\_5 Clamp frame and headband
- H0046\_6 Clamp frame and helmet
- H0040\_1 clip-set
- H0060\_1 Lens and seal
- H0066\_1 HB-800 Spare battery
- H0061\_1 O-ring for battery case
- H0065\_2 Cover assembly
- H0031\_2 Locking ring & locking screw
- H0036\_2 Switch and adjustment assemblies

**SPARE PARTS FOR HC-41/42 CHARGER**

- H0021\_1 Casing and adhesive tapes
- H0022\_1 Cable set with connector
- H0023\_1 Bottom plate
- H0024\_1 Printed circuit board (PCB)
- H0025\_1 PCB mounting posts (8 pcs.)
- H0026\_1 Set of screws

**TECHNICAL SPECIFICATIONS****HL-800 LAMP**

Operating temperature:	-20°C ... +40°C
Protection class:	IP 66
Weight:	510g
Bulb:	(lamp 375g + battery 135g) 6V / 2.4W halogen (Px13.5) 6V / 1W LED (Px13.5)

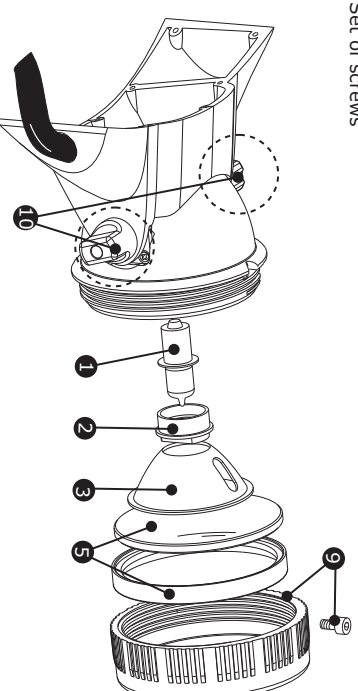
**HB-800 BATTERY (spare)**

Type:	NiMH battery
Capacity:	1350mAh
Voltage:	6V
Weight:	135g

**HC-41/42 CHARGING UNIT**

Operating temperature:	+5°C ... +40°C
Input voltage:	12...30VDC
Charging current:	650mA automatically controlled
Protection class:	IP 20
Dimensions:	152mm x 115mm x 60mm

**NOTE!** When ordering spare parts please always tell the model type and serial number of your lamp and/or charger.



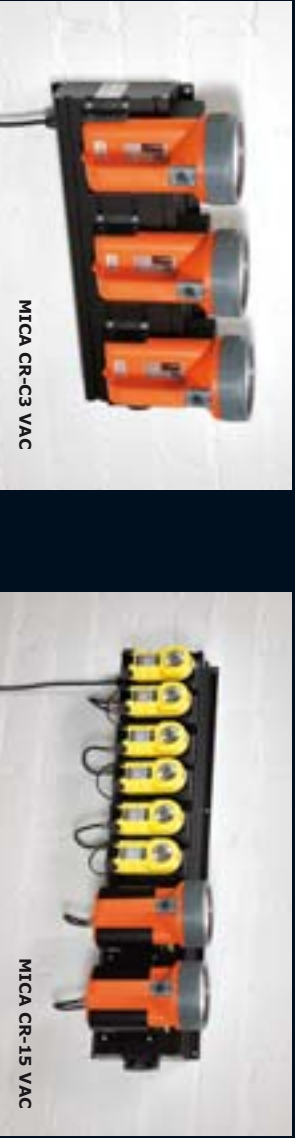


**Intelligent MICA chargers for IL-lamps**

MICA ILC-VAC & ILC chargers keep the lamp ready for use and will not overcharge the battery. The aluminum construction and tight fit will keep the lamp secure in rough conditions. Lamps can be stored in their chargers.

MICA VAC chargers are fed directly from the mains (85...264VAC). Other models can be connected directly into a vehicle battery (12...24VDC) or to the mains with an IL-2 adapter. The MICA charger range also includes VAC/VDC chargers that can be fed from a vehicle battery and/or the mains and it changes input automatically.

With multi-station MICA CR charger racks, you can fit your lamp/battery charger bay into a more compact space with minimum installation time. Ask for further information about other MICA Charging systems!



**MICA IL SERIES**



**MICA**  
**STRONGEST**  
**IN THE MARKET**



**Bright tools for professionals since 1983**

MICA lamps are designed and manufactured in Finland by Mica Elektro Oy Ltd. The company is one of the leading rechargeable light manufacturers in Europe. Every day hundreds of thousands MICA flashlights are used by top professionals around the world. Only the best quality components that meet European standards are approved for use in MICA products. Production quality is guaranteed by our ISO 9001:2008 certificate.



Mica Elektro Oy Ltd. tel:+358-9-561 7666 fax:+358-9-561 76688 www.mica.eu



MICA IL series -when second best is not an option!

The extremely robust IL-series handlamps are acknowledged as the leading product in the market in terms of durability, reliability and technology. The super tough nylon body is basically unbreakable and it also boasts a special hardened glass lens. With the wide selection of battery types, different light sources and other special functions, it is easy to combine a perfect MICA set to all applications. The IL series is developed together with professional users around the world, and it will not let you down when you need it most.

MICA offers a wide range of ATEX / IECEx -certified safety lamps from pocket-sized torches to lanterns and helmetlamps. The most hazardous ZONE 0 areas are also covered by rechargeable MICA lights. MICA Ex-lamps are extremely powerful with a long operating time. Certificates from: TÜV, VTT, Immetro and Gost-Ex.

See all colours with MICA CRI-90+ LEDs!

Colour rendering indicates how a light source makes colour appear to human eyes and how well slight variations in colour shades are revealed. The CRI scale indicates how accurate a light source is at rendering colour when compared to daylight. MICA CRI-90+ models have a minimum of CRI-90, which is considered to be excellent for tasks requiring accurate colour discrimination.

Handlamps with EM function

Emergency lighting is often forgotten until an accident happens. During a power failure, a MICA lamp with EM function will light up and provide light for the area in front of it. The lamp automatically turns off when returned to the charger and/or the power returns. In addition to this special function, MICA EM lights can be used normally as a professional flashlight.



MICA IL-6000 GT  
The true light cannon with extra boost power mode.

Product number:  
NIMH battery model 13750  
NiCd battery model 13760

Dimensions:  
215 x 120 x 120  
Weight:  
1600 grams

Lumens: High 700 Lumens  
With super boost +50%!  
Low 120 Lumens  
Light source:  
3 x Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 5 Hours  
•Low power 24 Hours

Ingress Protection:  
IP 66  
Other colours:  
Black and MIL green

Boost power stays on for as long the switch is held down. Large aluminum ring helps to cool extra heat.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.  
Special versions:  
EM, CRI-90+



MICA IL-600  
The extremely robust all-round lamp with three ultra-bright LED.

Product number:NIMH battery model 13700  
NiCd battery model 13710

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
High 500 Lumens  
Low 120 Lumens  
Light source:  
3 x Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 8 Hours  
•Low power 24 Hours

Ingress Protection:  
IP 66/67  
Other colours:  
Black and MIL green

Wide range of different accessories.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.  
Special versions:  
EM, CRI-90+



MICA IL-60 LED  
The new version of IL-60 with LED-power and long operating time.

Product number:NIMH battery model 11400  
NiCd battery model 11401

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
High 120 Lumens  
Low 60 Lumens  
Light source:  
Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 24 Hours  
•Low power 48 Hours

Ingress Protection:  
IP 66/67  
Other colours:  
Black and MIL green

Wide range of different reflectors and other accessories.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.  
Special versions:  
EM



MICA IL-60 Halogen  
Hundreds off thousands of Il-60 Halogen lamps are in use daily around the world.

Product number:  
NIMH battery model 11281  
NiCd battery model 11240

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
Up to 550 Lumens  
Light source: 6W, 10W, 20W or 30W Halogen

Battery Duration with  
NIMH Battery:  
•High power 5 Hours  
•Low power 8 Hours

Ingress Protection:  
IP 66/67  
Other colours:  
Black and red

Wide range of different bulbs, reflectors and Infra-Red and UV-lenses and other accessories.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.  
Special versions:  
EM



MICA IL-61  
Special signalling lamp for railway use.

Product number:  
NIMH battery model 11342

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
120 Lumens  
Light source:  
6W Halogen and 12 red power LED

Battery Duration with  
NIMH Battery:  
•High power 8 Hours  
•Low power 12 Hours

Ingress Protection:  
IP 65  
Other colours:  
Red

Normal or square light beam. Red signalling light-unit operated by a separate switch.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.



MICA IL-60 SRC  
Powerful searchlight for sea rescue use.

Product number:  
NiCd battery model 11249

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
Up to 550 Lumens  
Light source: 6W, 10W, 20W or 30W Halogen

Battery Duration with  
NIMH Battery:  
•High power 5 Hours  
•Low power 8 Hours

Ingress Protection:  
IP 66/67

Floats when dropped in water. EM function as a standard.

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.



MICA IL-60 MIL  
The extremely robust handlamp for military, police & border control use.

Product number:  
NIMH battery model 11280  
NiCd battery model 11287

Dimensions:  
215 x 120 x 120  
Weight:  
1400 grams

Lumens:  
Up to 550 Lumens  
Light source:  
10W, 20W or 30W Halogen

Battery Duration with  
NIMH Battery:  
•High power 2h 30min  
•Half power 4 hours

Ingress Protection:  
IP 66/67

IL-60 MIL Equipped with special infra-red filter (850nm).  
NIMH battery 11285\_-1  
NiCd battery 11285

Chargers:  
MICA IIC-3 and MICA CR multi-station chargers.



ZONE 0



MICA IL-800 ZONE 0  
ATEX / IECEx / GOST safety lamp with three ultra-bright LEDs

Product number:  
13800

Dimensions:  
215 x 120 x 120  
Weight:  
1100 grams

Lumens:  
High 200 Lumens  
Low 80 Lumens  
Light source:  
3 x Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 6 hours  
•Low power 12 hours

Type of Protection:  
II 1G Ex ia IIC T4 Ga  
II 2D Ex tb IIIC 100°C  
IP67 Db  
Certification  
ATEX:  
TÜV 10 ATEX 7878  
IECEx:  
IECEx TUR 11.0008  
IECEx TUR 11.0009

Gas Zones: 0, 1 and 2  
Dust Zones: 21 and 22

Chargers:  
MICA IIC-4 and MICA CR multi-station chargers.  
Special versions:  
EM, CRI-90+, Blink



MICA IL-800 ZONE 1  
ATEX / IECEx / GOST safety lamps with three ultra-bright LEDs

Product number:  
13810

Dimensions:  
215 x 120 x 120  
Weight:  
1100 grams

Lumens:  
High 200 Lumens  
Low 80 Lumens  
Light source:  
3 x Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 6 hours  
•Low power 12 hours

Type of Protection:  
II 2G Ex Ib IIC T4 Gb  
II 2D Ex tb IIIC 100°C  
IP67 Db  
Certification  
ATEX:  
TÜV 10 ATEX 7879  
IECEx:  
IECEx TUR 11.0009

Gas Zones: 1 and 2  
Dust Zones: 21 and 22

Chargers:  
MICA IIC-4 and MICA CR multi-station chargers.  
Special versions:  
EM, CRI-90+, Blink



MICA IL-80 ATEX LED  
ATEX / GOST certified safety lamp with one ultra-bright LED.

Product numbers:  
ATEX model 11180\_1  
GOST model 11195\_1

Dimensions:  
215 x 120 x 120  
Weight:  
1100 grams

Lumens:  
High 60 Lumens  
Low 30 Lumens  
Light source:  
Ultra-bright LED

Battery Duration with  
NIMH Battery:  
•High power 10h 30min  
•Low power 21 hours

Type of Protection:  
II 2 G D Ex elb IIC T4  
II 2D Ex tb IIIC 100°C  
Certification  
ATEX:  
VTT 03 ATEX 027X

Gas Zones: 1 and 2  
Dust Zones: 21 and 22  
Ingress Protection:  
IP 66

Chargers:  
MICA IIC-4 and MICA CR multi-station chargers.  
Special versions:  
EM



Details and Accessories



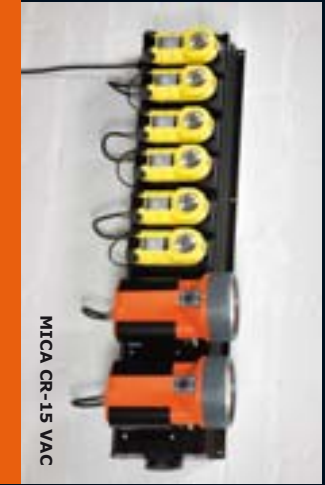
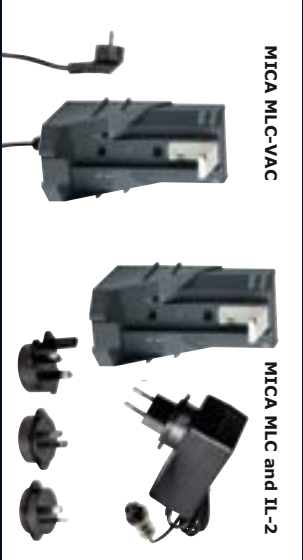
MICA lamps are designed and manufactured in Finland by Mica Elektro Oy Ltd



**MICA Fast Chargers for ML lamps**

Intelligent MICA MLC fast chargers will recharge a depleted battery in less than three hours. MLC can be fed either directly from 12...24VDC vehicle battery or from the mains 85... 265VAC using a MICA IL-2 AC/DC adapter. MICA MLC-VAC may be connected directly to the mains. The tight locking clip will keep the lamp firmly in the charger. The MICA MLC charger ensure the lamp is kept ready for use and will not overcharge the battery. You can install up to ten MLC chargers into the CR-15 charger holder rack. With the compact MICA CR-track charger installation is quick and hassle-free!

*Ask for further information about other MICA Charging systems!*



**MICA ML SERIES**



**Bright tools for professionals since 1983**

MICA lamps are designed and manufactured in Finland by Mica Elektro Oy Ltd. The company is one of the leading rechargeable light manufacturers in Europe. Every day hundreds of thousands MICA flashlights are used by top professionals around the world. Only the best quality components that meet European standards are approved for use in MICA products. Production quality is guaranteed by our ISO 9001:2008 certificate.





MICA ML series

Mica ML lamps are robust and compact handlamps for every-day professional use. The entire range is rechargeable, easy-to-use and maintain. NiMH battery pack gives up to 8 hours of continuous operating time. Advanced electronics prevent deep discharge of the battery and indicate low battery charge. ML-series lamps warn the user of low battery charge by flashing the light beam when there is 15-20 minutes of operating time left.

ML-600 Series

In addition to the main High-Power LED, the ML-601 incorporates twelve red LEDs with a separate switch for signalling purposes and the ML-602 features six red and six green LEDs, with separate switches for controlling the lamp. The signalling matrix is visible over distance of more than 1.5 kilometres. The housing is splash proof and is equipped with steel belt clip. Also available with ML-green body and with UV- or IR-LEDs. All ML-600 series lamps are equipped with an Emergency Lighting function (EM).



ML-800 ATEX Series

MICA offers range of pocket-sized ATEX / GOST -certified safety lamps. ML-800 is the market leader in small rechargeable Ex-lamps. The shock resistant cover is manufactured completely from antistatic plastic and aluminum, its enclosure class is IP 66 and it is equipped with steel belt clip. The advanced electronics of the ML-800 ATEX indicate low battery charge with an easy-to-read LED-bar indicator. Available with 1W or 3W LEDs and with the Emergency Lighting function (EM).



MICA lamps are designed and manufactured in Finland by Mica Elektro Oy Ltd



MICA ML-600  
Pocket-size lamp for professional use with ultra-bright LED power.  
Product number: 11520\_1

MICA ML-601  
Pocket-size signalling lamp for railway use. Ultra-bright LED and extremely powerful red signalling unit.  
Product number: 11521\_1

MICA ML-601 DB  
Specially tailored for Europe's biggest railway operator.  
Product number: 11523\_1

MICA ML-602  
Pocket-size signalling lamp for railway use. Ultra-bright LED and two signalling units (red/green).  
Product number: 11522\_1

MICA ML-601 UV375  
Inspection lamp with ultra-bright LED and 12 powerful UV-375nm LEDs. For checking ID cards, passports and other documents in daylight.  
Product number: 11521\_3

MICA ML-602 UV375/IR850  
Inspection lamp with ultra-bright LED and 6 UV-375nm LEDs and 6 IR-850nm LEDs.  
Product number: 11522\_4

MICA ML-800 1W  
The extremely robust ATEX / GOST safety lamp with ultra-bright LED  
Product number: 11550

MICA ML-800 3W  
The extremely robust ATEX / GOST safety lamps with ultra-bright LED  
Product number: 11560

Dimensions: 57 x 64 x 122  
Weight: 315 grams

Dimensions: 57 x 64 x 122  
Weight: 275 grams

Dimensions: 57 x 64 x 122  
Weight: 275 grams

Dimensions: 57 x 64 x 122  
Weight: 275 grams

Dimensions: 57 x 64 x 122  
Weight: 275 grams

Dimensions: 57 x 64 x 122  
Weight: 275 grams

Dimensions: 55 x 64 x 120  
Weight: 370 grams

Dimensions: 55 x 64 x 120  
Weight: 370 grams

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 40.5 Lumens  
Light source: Ultra-bright LED

Lumens: 45 Lumens  
Light source: 1W LED

Lumens: 65 Lumens  
Light source: 3W LED

Battery Duration with 1800mAh NiMH battery: 8 hours

Battery Duration with 1350mAh NiMH battery: 6 hours

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Battery Duration (NiMH): 7 hours

Battery Duration (NiMH): 3 hours

Ingress Protection: IP 54  
Other colours: Green

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Type of Protection: II 2GD  
Ex op is IIC T4  
Ex id 21 T130°C

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All ML-600/601/602 lamps include: Steel belt clip, wrist strap, EM function and stepless dimmer. Accessories: colour filters, diffuser, halogen bulb

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Certification ATEX: VTT 04 ATEX 062X  
Gas Zones: 1 and 2  
Dust Zones: 21 and 22

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Gas Zones: 1 and 2  
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Chargers: MICA MLC and MICA CR multi-station chargers.

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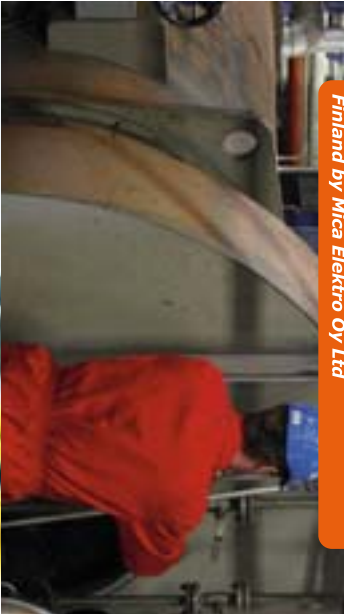
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## MICA IL-80 ATEX 1W LED TECHNICAL DATA

<b>MODEL</b>	<b>IL-80 ATEX / EM</b>
<b>Product description</b>	IL-80 ATEX: Rechargeable safety hand lamp IL-80 ATEX EM: Rechargeable emergency lamp
<b>Code</b>	Ex II 2GD Ex eib IIC T4 ( $T_{amb} = -20^{\circ}\text{C} \dots +35^{\circ}\text{C}$ ) /T3 Ex tD IP66 T135°C
<b>Apparatus standards</b>	EN60079-0 EN60079-7 EN60079-11 EN60079-28 EN60241-0 EN60241-1
<b>Type of protection</b>	"e" increased safety, "ib" intrinsic safety
<b>Area of classification G (Gas)</b>	Zones 1 and 2 Gas groups IIA, IIB, IIC
<b>Area of classification D (Dust)</b>	Zones 21 and 22
<b>Temp. classification</b>	T4/T3
<b>Operating temperature</b>	$-20^{\circ}\text{C} \dots +40^{\circ}\text{C}$ , $-20^{\circ}\text{C} \dots +35^{\circ}\text{C}$ T4
<b>Certification</b>	VTT 03 ATEX 027X EMC Directive 89/336/EEC Directive 94/9/EEC
<b>Enclosure</b>	Antistatic polypropylene
<b>Lens</b>	Toughened glass (5mm)
<b>Beam type</b>	Spot/flood
<b>Light source:</b>	T3/T4 Px 13,5: 1W 6V Philips LED (side emitting) P160S Light output 40,5 lm; 7000lx @ 1m Lifetime: 50 000h
<b>Power source:</b>	6V 5,0Ah rechargeable NiCd battery
<b>Light duration</b>	Full power output: 24 hours Half power output: 40 hours
<b>Ingress protection</b>	IP 66
<b>Weight with battery</b>	1,3 kg
<b>Dimensions</b>	121 x 121 x 216mm
<b>Other features:</b>	- Deep discharge prevention - Low battery warning 15 min. before battery runs out
<b>Chargers</b>	Single charger <b>MICA ILC-VAC, ILC + IL-2</b> Multi charger <b>MICA CR-C3</b> for 3 lamps Multi charger <b>MICA CR-C5</b> for 5 lamps
<b>Accessories</b>	Filters: red, green, amber

